

# THE HERBRAND COMPANY

Cable Address  
"HERBRAND" Fremont  
Iron Age Code on page 8

Fremont, Ohio, U. S. A.

Manufacturers of Machinists' Tools

Other Codes Used  
Lieber's, ABC  
Standard

FOREIGN BRANCH  
ENGLAND: LONDON, E. C. 2—11 and 12 Finsbury Square

WRENCHES, PLIERS, SCREW DRIVERS, HAMMERS, AND TOOL KITS

## Plant and Facilities

The plant of The Herbrand Company is thoroughly modern and complete. New equipment and improved methods result in low production cost and improved quality of work.

New hammers, forging machines, and presses of latest design, with complete heat-treating facilities, permit the Company properly to manufacture parts ranging from the smallest up to those weighing 200 lb. (90 kg.).

The trimming, bending, welding, pickling, tumbling, milling, grinding, polishing, hardening and plating departments are correspondingly furnished. The die and machine departments are particularly well equipped with both skilled workmen and modern machines. The hardening department has furnaces suitable for annealing, case hardening, and tempering carbon, alloy, and high-speed steels.

## Special Drop Forgings

This Company also makes drop forgings to order. Dies for special work are made by it and retained on file. Any repairs or renewals are made at the Company's expense.

## Service

**In Ordering**—Please give name, number and finish of article wanted. (Note the three finishes shown in Fig. 6.) This will avoid any possible confusion or delay in shipping.

**Warranty**—Any tool stamped "HERBRAND" that proves defective, either in material or workmanship, will be replaced.

**Cuts**—Cuts illustrating any of the Company's goods will be furnished for customer's catalogues.

**Quotations**—Quotations are furnished for special forgings on receipt of model, blue print or drawing, with specifications and quantity required.

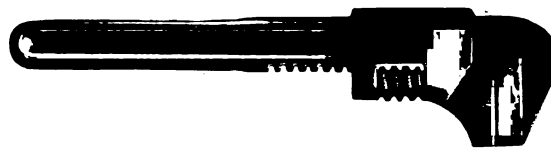


Fig. 2. Automobile, Machine, and Motorcycle Wrench  
Tire-lever and straight handles.

TABLE II. DROP-FORGED AUTOMOBILE, MACHINE, AND MOTORCYCLE WRENCHES

(a) No.	(b) Length		(c) Jaws		(d) Open		(e) Weight		(f) Code Word	
	in.	mm.	in.	mm.	in.	mm.	lb.	kg.	Black	Mottled
110	7	178	1 x 3/8	25x10	1 3/4	44	1	0.34	RAJAD	RAKUK
*112	9	229	2 x 3/8	51x10	2 1/8	54	1	0.45	RAJOB	RAJIN
*113	11	279	2 1/2 x 3/8	67x11	2 1/2	64	2	0.91	RAJUC	RAJOP
*114	14	356	3 x 3/8	76x16	3	76	3 1/2	1.59	RAKAL	RAJUR
116	18	457	3 3/4 x 3/4	95x19	4	102	7	3.18	RAKIG	RAMAS

\*Tire-lever or straight handle.

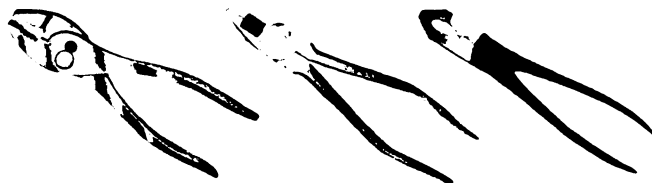


Fig. 3. Pliers, Nos. 150, 154, and 157

TABLE III. DROP-FORGED COMBINATION WIRE-CUTTING, AND GAS PLIERS

(a) No.	(b) Length		(c) Capacity		(d) Weight		(e) Code Word	
	in.	mm.	in.	mm.	oz.	g.	Black	N.P.*
150	5	127	3/8 to 3/4	5x16	4	113	RAPUF	RAWUB
151†	6	152	1/4 to 3/4	6x19	9	255	‡RARAG	RAWAK
152†	8	203	1/4 to 1	6x25	11	312	—	RAWUJ
153†	10	254	3/8 to 1 1/4	8x32	16	454	—	RAXAR
154	6	152	—	—	7	198	RAROL	—
155	7	178	—	—	10	284	RASAN	—
156	8	203	—	—	15	425	RASEP	—
157	8	203	—	—	12	340	RASIR	—

\*Nickel plated finish.

†With knurled handle. Code word: ZAZES.

‡6 in. (152 mm.) black finish without knurled handle.

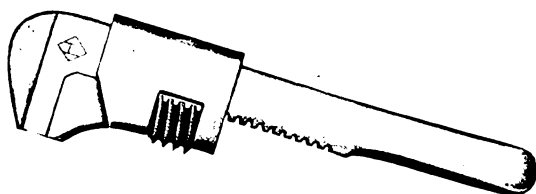


Fig. 1. Bicycle Wrench, No. 107

TABLE I. DROP-FORGED BICYCLE WRENCHES

(a) No.	(b) Length		(c) Jaws		(d) Open		(e) Weight		(f) Code Word	
	in.	mm.	in.	mm.	in.	mm.	oz.	g.	Mottled	N.P.*
107	5 3/4	146	3/4 x 1/4	19x6	1 1/2	38	5 3/4	163	MOTTLE	RAGEX

\*Nickel plated finish.



Fig. 4. Square Shank All Steel Screw Driver  
Length, 9 1/2 in. (241 mm.). Width of blade, 5/8 in. (16 mm.). Weight, 11 oz. (312 g.). Code word: REDUG.

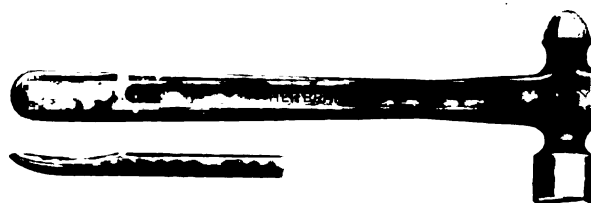


Fig. 5. Ball-Peen Hammer, No. 165  
All steel, black finish; head and peen polished.

SIGUE EL TEXTO ESPAÑOL

SEGUE-SE O TEXTO PORTUGUEZ

LE TEXTE FRANÇAIS FAIT SUITE

РУССКИЙ ТЕКСТ СЛЕДУЕТ

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Fig. 6. Engineers' Wrenches, Showing the Three Styles of Finish

- (a) Unfinished: Forgings are milled and finished black.  
 (b) Semi-finished: Forgings are milled, hardened and finished black with heads ground bright.  
 (c) Finished: Forgings are milled, polished all over and hardened, mottled or black-finished with or without heads brightened.  
 (d) Unfinished and hardened: Forgings are milled, hardened and finished black.

TABLE IV. DROP-FORGED ENGINEERS' WRENCHES

(a) No.	(b) For U. S. Standard Nuts; Size Bolts		(c) Openings Milled		(d) Extreme Length		(e) Thickness Heads		(f) List Prices		
	in.	mm.	in.	mm.	in.	mm.	in.	mm.	Un-finished	Semi-finished	Finished

TABLE IV a. 15° ANGLE, SINGLE HEAD

00	1/4	3	8	3	76	4	\$0.09	\$0.14	\$0.22		
0	5/16	5	10	3 1/2	89	5	.10	.15	.25		
1	3/8	6	13	4	102	6	.12	.18	.28		
2	7/16	8	15	4 3/4	121	7	.15	.22	.32		
3	1/2	10	17	5 5/8	143	8	.18	.26	.38		
4	9/16	11	20	6 1/2	165	9	.22	.32	.45		
5	5/8	13	22	7 1/2	191	10	.26	.38	.54		
6	3/4	14	25	8 3/8	213	11	.31	.46	.65		
7	7/8	16	27	9 1/4	235	13	.40	.57	.82		
8	1 1/8	19	32	11 1/8	283	14	.55	.75	1.05		
9	1 1/4	22	37	13	330	17	.85	1.15	1.52		
10	1 1/2	25	41	14 3/4	375	19	1.20	1.60	2.10		
11	1 3/4	29	46	16 1/2	419	21	1.65	2.10	2.80		
12	2	32	51	18 1/2	470	23	2.20	2.85	3.70		
13	2 1/4	35	56	20	508	25	2.80	3.65	4.70		
14	2 1/2	38	60	22	559	27	3.45	4.60	5.80		
15	2 3/4	41	65	24	610	29	4.15	5.60	7.10		
16	3	44	70	25 1/2	648	31	4.90	6.70	8.50		
16A	1 3/4	48	75	27	686	31	4.90	6.70	8.50		
17	2 1/2	51	79	29 1/2	749	35	7.50	10.25	13.00		
18	2 3/4	57	89	33	838	39	11.50	14.75	18.00		
19	3	64	98	37	940	41	17.00	21.00	25.00		
19A	2 3/4	70	108	39	991	41	17.00	21.00	25.00		
20	3 1/4	76	117	41	1041	48	25.00	31.00	37.00		
20A	3 1/4	83	127	43	1092	48	25.00	31.00	37.00		
21A	3 1/2	99	137	45	1143	64	40.00	52.00	64.00		
21B	3 3/4	95	146	47	1194	64	40.00	52.00	64.00		
21C	4	102	156	49	1245	64	40.00	52.00	64.00		
22A	4 1/2	114	175	51	1295	76	80.00	102.00	124.00		
22B	5	127	194	53	1346	76	80.00	102.00	124.00		

TABLE IV b. 15° ANGLE, DOUBLE HEAD

21	1/4	3x 5	5/16 - 13/32	8x 10	3 1/4	83	12 3/4 - 13/16	5 - 6	\$0.12	\$0.17	\$0.26
22	5/16	3x 6	3/8 - 1/2	8x 13	4	102	13 1/4 - 1/4	5 - 6	.14	.21	.32
23	3/8	5x 6	1/2 - 5/8	10x 13	4	102	13 1/2 - 1/4	6 - 6	.14	.21	.32
24	7/16	5x 8	5/8 - 15/16	10x 15	4 1/2	124	14 - 3/8	6 - 7	.17	.25	.38
25	1/2	6x 8	1/2 - 15/16	13x 15	4 1/2	124	14 - 3/8	6 - 7	.17	.25	.38
26	9/16	6x 10	5/8 - 1 1/16	13x 17	5 1/8	149	14 - 3/8	6 - 8	.21	.31	.46
27	5/8	8x 10	15/16 - 1 1/16	15x 17	5 1/8	149	15 1/2 - 3/8	7 - 8	.21	.31	.46
28	3/4	8x 11	1 1/16 - 1 1/8	15x 20	6 1/4	175	16 1/2 - 1 1/16	7 - 9	.25	.37	.56
29	7/8	10x 11	1 1/8 - 1 1/2	17x 20	6 1/4	175	16 1/2 - 1 1/16	8 - 9	.25	.37	.56
30	1 1/8	10x 13	1 1/2 - 1 3/4	17x 22	7 1/4	197	17 1/2 - 1 1/8	8 - 10	.30	.45	.68
31	1 1/4	11x 13	1 3/4 - 2	20x 22	7 1/4	197	18 1/2 - 1 1/8	9 - 11	.37	.55	.85
32	1 1/2	11x 14	2 - 2 1/8	20x 25	8 3/4	222	19 1/2 - 1 1/4	9 - 11	.37	.55	.85
33	1 3/4	13x 14	2 1/8 - 2 1/2	22x 25	8 3/4	222	19 1/2 - 1 1/4	10x 11	.37	.55	.85
34	2	13x 16	2 1/2 - 2 3/4	22x 27	9 1/4	248	19 1/2 - 1 1/4	10x 13	.46	.68	1.08
35	2 1/4	14x 16	2 3/4 - 3	25x 27	9 1/4	248	21 1/2 - 1 1/4	11x 13	.46	.68	1.08
36	2 1/2	14x 19	3 - 3 1/8	25x 32	11 1/8	292	21 1/2 - 1 1/4	11x 14	.66	.96	1.40
37	2 3/4	16x 19	3 1/8 - 3 1/2	27x 32	11 1/8	292	21 1/2 - 1 1/4	13 - 14	.66	.96	1.40
38	3	16x 22	3 1/2 - 3 3/4	27x 37	13 1/8	343	21 1/2 - 1 1/4	13 - 17	1.00	1.40	1.90
39	3 1/4	19x 25	3 3/4 - 4	32x 37	13 1/8	343	21 1/2 - 1 1/4	14 - 19	1.00	1.40	1.90
40	3 1/2	19x 25	4 - 4 1/8	32x 41	15 1/8	394	21 1/2 - 1 1/4	14 - 19	1.00	1.40	1.90
41	4	22x 25	4 1/8 - 4 1/2	37x 41	15 1/8	394	21 1/2 - 1 1/4	17 - 19	1.40	1.90	2.60
42	4 1/2	22x 25	4 1/2 - 4 3/4	37x 46	17	432	21 1/2 - 1 1/4	17 - 21	1.90	2.65	3.50
43	5	25x 32	4 3/4 - 5	41x 46	17	432	21 1/2 - 1 1/4	19 - 21	2.60	3.60	4.70
44	5 1/8	25x 32	5 - 5 1/4	41x 51	19	483	21 1/2 - 1 1/4	21 - 23	2.60	3.60	4.70
45	5 1/4	29x 35	5 1/4 - 5 3/8	46x 56	21	533	21 1/2 - 1 1/4	21 - 25	3.80	5.25	6.70
46	5 3/8	29x 35	5 3/8 - 5 7/8	51x 56	21	533	21 1/2 - 1 1/4	23 - 25	3.80	5.25	6.70
47	5 7/8	32x 38	5 7/8 - 6	51x 60	23	584	21 1/2 - 1 1/4	23 - 27	5.20	7.00	8.80
48	6	35x 38	6 - 6 1/8	56x 60	23	584	21 1/2 - 1 1/4	25 - 27	5.20	7.00	8.80
49	6 1/8	35x 41	6 1/8 - 6 3/4	56x 65	25	635	21 1/2 - 1 1/4	25 - 29	6.75	9.00	11.25
50	6 3/8	38x 41	6 3/8 - 6 7/8	60x 65	25	635	21 1/2 - 1 1/4	27 - 29	7.40	9.90	12.40
51	6 7/8	38x 44	6 7/8 - 7 1/8	60x 70	27	686	21 1/2 - 1 1/4	27 - 31	8.35	11.00	13.65
52	7	41x 44	7 - 7 1/8	65x 70	27	686	21 1/2 - 1 1/4	29 - 31	9.00	12.00	15.00
53	7 1/8	41x 48	7 1/8 - 7 3/4	65x 75	29	737	21 1/2 - 1 1/4	29 - 31	9.00	12.00	15.00
53A	7 1/4	41x 51	7 1/4 - 7 3/4	65x 79	31	787	21 1/2 - 1 1/4	29 - 35	11.00	14.25	17.50
54	7 3/8	44x 51	7 3/8 - 7 7/8	70x 79	32	813	21 1/2 - 1 1/4	31 - 35	12.00	15.50	19.00
55	7 7/8	48x 51	7 7/8 - 8 1/8	75x 79	33	838	21 1/2 - 1 1/4	31 - 35	12.00	15.50	19.00
56	8	48x 57	8 - 8 1/4	70x 89	34	864	21 1/2 - 1 1/4	31 - 39	16.00	20.00	24.00
56A	8 1/4	48x 57	8 1/4 - 8 3/4	75x 89	35	889	21 1/2 - 1 1/4	31 - 39	16.00	20.00	24.00
57	8 3/4	51x 57	8 3/4 - 9	79x 89	36	914	21 1/2 - 1 1/4	35 - 39	18.50	23.50	28.50
57A	8 3/8	51x 57	8 3/8 - 8 7/8	79x 98	37	940	21 1/2 - 1 1/4	35 - 41	23.00	28.00	33.00
58	9	51x 64	9 - 9 1/4	89x 98	38	965	21 1/2 - 1 1/4	41 - 41	26.00	31.00	36.00
59	9 1/4	57x 70	9 1/4 - 9 3/4	89x 108	39	991	21 1/2 - 1 1/4	39 - 41	26.00	31.00	36.00
60	9 3/4	64x 70	9 3/4 - 10	98x 108	40	1016	21 1/2 - 1 1/4	41 - 41	30.00	37.50	45.00
61	10	64x 70	10 - 10 1/4	108x 117	44	1118	21 1/2 - 1 1/4	41 - 48	38.00	47.00	56.00
62	10 1/4	70x 90	10 1/4 - 10 3/4	108x 137	46	1168	21 1/2 - 1 1/4	41 - 64	55.00	67.50	80.00
63	10 3/4	70x 90	10 3/4 - 11	117x 137	48	1219	21 1/2 - 1 1/4	48 - 64	65.00	77.50	90.00

SIGUE EL TEXTO ESPAÑOL

SEGUISE O TEXTO PORTUGUEZ



Fig. 7. Check Nut Wrench

Fig. 8. Set Screw Wrench\*

TABLE V. DROP-FORGED CHECK NUT OR "THIN" WRENCHES\*

(a) No.	(b) For U. S. Standard Nuts; Size Bolts		(c) Openings Milled		(d) Extreme Length		(e) Thickness Heads		(f) List Prices		
	in.	mm.	in.	mm.	in.	mm.	in.	mm.	Un-finished	Semi-finished	Finished

TABLE V a. 15° ANGLE, SINGLE HEAD

601	1/4	3	8	3	76	4	\$0.12	\$0.18	\$0.28		
602	5/16	5	10	3 1/2	89	5	.15	.22	.32		
603	3/8	6	13	4	102	6	.18	.26	.38		
604	7/16	8	15	4 3/4	121	7	.22	.32	.45		
605	1/2	10	17	5 5/8	143	8	.26	.38	.54		
606	9/16	11	20	6 1/2	165	9	.31	.46	.65		
607	5/8	13	22	7 1/2	191	10	.38	.54	.76		
608	3/4	14	25	8 3/8	213	11	.48	.68	.94		
609	7/8	16	27	9 1/4	235	13	.68	.92	1.25		
610	1	19	32	11 1/8	283	14	1.00	1.30	1.70		

TABLE V b. 15° ANGLE, DOUBLE HEAD

623	$\frac{3}{8}$ - $\frac{1}{4}$	5-6	$\frac{1}{32}$ - $\frac{1}{8}$	10-13	$\frac{4}{8}$ 83	111	$\frac{9}{16}$ - $\frac{3}{32}$	4-4	\$0 17	\$0 25	\$0 38
624	$\frac{1}{2}$ - $\frac{5}{8}$	5-8	$\frac{1}{32}$ - $\frac{19}{32}$	12-15	$\frac{4}{8}$ 83	111	$\frac{9}{16}$ - $\frac{3}{32}$	4-4	17	25	38
625	$\frac{3}{8}$ - $\frac{5}{8}$	6-8	$\frac{1}{2}$ - $\frac{19}{32}$	13-15	$\frac{4}{8}$ 83	111	$\frac{9}{16}$ - $\frac{3}{32}$	4-4	17	25	38
626	$\frac{1}{2}$ - $\frac{3}{4}$	8-10	$\frac{1}{2}$ - $\frac{1}{16}$	13-17	$\frac{5}{16}$ 140	140	$\frac{3}{16}$ - $\frac{1}{16}$	4-5	22	32	48
627	$\frac{3}{8}$ - $\frac{3}{8}$	8-10	$\frac{1}{2}$ - $\frac{1}{16}$	13-17	$\frac{5}{16}$ 140	140	$\frac{3}{16}$ - $\frac{1}{16}$	4-5	22	32	48
628	$\frac{3}{8}$ - $\frac{3}{8}$	8-11	$\frac{1}{2}$ - $\frac{23}{32}$	15-20	$\frac{5}{16}$ 140	140	$\frac{3}{16}$ - $\frac{1}{16}$	4-5	22	32	48
629	$\frac{3}{8}$ - $\frac{7}{16}$	10-11	$\frac{1}{16}$ - $\frac{23}{32}$	17-20	$\frac{6}{16}$ 175	175	$\frac{3}{16}$ - $\frac{1}{16}$	5-6	28	40	60
630	$\frac{3}{8}$ - $\frac{1}{2}$	10-13	$\frac{1}{16}$ - $\frac{7}{8}$	17-22	$\frac{6}{16}$ 175	175	$\frac{3}{16}$ - $\frac{1}{32}$	5-6	28	40	60
631	$\frac{3}{8}$ - $\frac{1}{2}$	10-13	$\frac{1}{16}$ - $\frac{7}{8}$	20-22	$\frac{6}{16}$ 175	175	$\frac{3}{16}$ - $\frac{1}{32}$	5-6	28	40	60
632	$\frac{3}{8}$ - $\frac{1}{2}$	11-14	$\frac{2}{8}$ - $\frac{21}{32}$	20-25	$\frac{8}{16}$ 216	216	$\frac{3}{16}$ - $\frac{1}{2}$	6-7	40	56	80
633	$\frac{1}{2}$ - $\frac{9}{16}$	13-14	$\frac{7}{8}$ - $\frac{31}{32}$	22-25	$\frac{8}{16}$ 216	216	$\frac{3}{16}$ - $\frac{1}{2}$	6-7	40	56	80
634	$\frac{1}{2}$ - $\frac{5}{8}$	13-16	$\frac{7}{8}$ - $\frac{1}{16}$	22-27	$\frac{8}{16}$ 216	216	$\frac{3}{16}$ - $\frac{1}{2}$	6-7	40	56	80
635	$\frac{1}{2}$ - $\frac{5}{8}$	14-16	$\frac{31}{32}$ - $\frac{1}{16}$	25-27	$\frac{10}{8}$ 264	264	$\frac{3}{16}$ - $\frac{7}{8}$	7-8	60	84	115
636	$\frac{1}{2}$ - $\frac{5}{8}$	14-19	$\frac{31}{32}$ - $\frac{1}{16}$	25-32	$\frac{10}{8}$ 264	264	$\frac{3}{16}$ - $\frac{7}{8}$	7-8	60	84	115
637	$\frac{3}{8}$ - $\frac{1}{4}$	16-19	$\frac{1}{16}$ - $\frac{1}{4}$	27-32	$\frac{10}{8}$ 264	264	$\frac{3}{16}$ - $\frac{7}{8}$	7-8	60	84	115
638	$\frac{3}{8}$ - $\frac{7}{8}$	16-22	$\frac{1}{16}$ - $\frac{1}{16}$	27-37	$\frac{12}{8}$ 321	321	$\frac{1}{16}$ - $\frac{1}{16}$	8-11	1 00	1 30	1 75
639	$\frac{3}{8}$ - $\frac{7}{8}$	19-22	$\frac{1}{16}$ - $\frac{1}{16}$	32-37	$\frac{12}{8}$ 321	321	$\frac{1}{16}$ - $\frac{1}{16}$	8-11	1 00	1 30	1 75
640	$\frac{3}{4}$ - $\frac{1}{2}$	19-25	$\frac{1}{16}$ - $\frac{1}{16}$	32-41	$\frac{12}{8}$ 321	321	$\frac{1}{16}$ - $\frac{1}{16}$	8-11	1 00	1 30	1 75





Fig. 11. Cap Screw Wrench



Fig. 12. "S" Wrench

TABLE VII. DROP-FORGED CAP SCREW AND "S" WRENCHES

(a) No.	(b) For Hexagon Head Cap Screws; Size Screws		(c) Openings Milled		(d) Extreme Length		(e) Thickness Heads		(f) List Prices		
	in.	mm.	in.	mm.	in.	mm.	in.	mm.	Un- finished	Semi- finished	Fin- ished

TABLE VII a. CAP SCREW WRENCHES, 15° ANGLE, SINGLE HEAD

00	1/8	3	3/16	8	3	7/8	3/16	4	\$0.09	\$0.14	\$0.22
700	1/8	5	3/16	10	3 1/2	8 1/2	3/16	5	.10	.15	.25
701	1/8	6	3/16	11	4	10 1/2	3/16	6	.12	.18	.28
701A	1/8	8	3/16	13	4	10 1/2	3/16	6	.12	.18	.28
702	1/8	10	3/16	14	4 3/4	12 1/2	3/16	7	.15	.22	.32
703	1/8	11	3/16	16	5 3/4	14 1/2	3/16	8	.18	.26	.38
704	1/8	13	3/16	19	6 1/2	16 1/2	3/16	9	.22	.32	.45
705	1/8	14	3/16	21	7 1/2	19 1/2	3/16	10	.26	.38	.54
705A	1/8	16	3/16	22	7 1/2	19 1/2	3/16	10	.26	.38	.54
706	3/8	19	1/2	25	8 3/4	21 3/4	3/16	11	.31	.46	.65
707	3/8	22	1/2	29	9 3/4	23 3/4	3/16	13	.40	.57	.82
708	1 1/8	25	1 1/4	32	11 3/8	25 7/8	3/16	14	.55	.75	1.05
708A	1 1/8	29	1 3/4	35	11 3/8	25 7/8	3/16	14	.55	.75	1.05
709	1 1/4	32	1 1/2	38	13	33 1/2	3/16	17	.85	1.15	1.52
710	1 3/8	35	1 3/4	41	14 3/4	37 1/2	3/16	19	1.20	1.60	2.10

TABLE VII b. CAP SCREW WRENCHES, 15° ANGLE, DOUBLE HEAD

721	1/8	3	3/16	8	3 1/2	8 1/2	3/16	4	\$0.12	\$0.17	\$0.26
722	1/8	5	3/16	10	4	10 1/2	3/16	4	.14	.21	.32
723	1/8	6	3/16	11	4	10 1/2	3/16	4	.14	.21	.32
723A	1/8	8	3/16	13	4	10 1/2	3/16	4	.14	.21	.32
725	1/8	10	3/16	14	4 3/4	12 1/2	3/16	6	.17	.25	.38
725A	1/8	11	3/16	16	4 3/4	12 1/2	3/16	6	.17	.25	.38
725B	1/8	13	3/16	19	4 3/4	12 1/2	3/16	6	.17	.25	.38
726	3/8	16	1/2	18	5 3/4	14 1/2	3/16	6	.21	.31	.46
727	3/8	19	1/2	21	6 1/2	16 1/2	3/16	7	.25	.37	.56
728	3/8	22	1/2	24	6 1/2	16 1/2	3/16	7	.25	.37	.56
729	3/8	25	1/2	27	6 1/2	16 1/2	3/16	7	.25	.37	.56
730	1 1/8	29	1 1/4	32	8 3/4	21 3/4	3/16	8	.30	.45	.68
731	1 1/8	32	1 1/4	35	8 3/4	21 3/4	3/16	8	.30	.45	.68
731A	1 1/8	35	1 1/4	38	8 3/4	21 3/4	3/16	8	.30	.45	.68
731B	1 1/8	38	1 1/4	41	8 3/4	21 3/4	3/16	8	.30	.45	.68
732	3/8	22	1/2	24	6 1/2	16 1/2	3/16	10	.37	.55	.85
733	3/8	25	1/2	27	6 1/2	16 1/2	3/16	10	.37	.55	.85
734	3/8	28	1/2	30	6 1/2	16 1/2	3/16	10	.37	.55	.85
735	3/8	31	1/2	33	6 1/2	16 1/2	3/16	10	.37	.55	.85
736	3/8	34	1/2	36	6 1/2	16 1/2	3/16	10	.37	.55	.85
737	3/8	37	1/2	39	6 1/2	16 1/2	3/16	10	.37	.55	.85
738	3/8	40	1/2	42	6 1/2	16 1/2	3/16	10	.37	.55	.85
739	1 1/8	43	1 1/4	45	8 3/4	21 3/4	3/16	10	.37	.55	.85
739A	1 1/8	46	1 1/4	48	8 3/4	21 3/4	3/16	10	.37	.55	.85
739B	1 1/8	49	1 1/4	51	8 3/4	21 3/4	3/16	10	.37	.55	.85

TABLE VII c. "S" WRENCHES, 22 1/2° ANGLE, DOUBLE HEAD (FOR U. S. STANDARD NUTS)

661A	1/8	3	3/16	8	10	4	10 1/2	3/16	7	\$0.15	\$0.22	\$0.32
661B	1/8	5	3/16	10	12	4	10 1/2	3/16	7	.15	.22	.32
661C	1/8	6	3/16	11	13	4	10 1/2	3/16	7	.15	.22	.32
662A	1/8	8	3/16	13	15	5	12 1/2	3/16	8	.20	.29	.42
662B	1/8	10	3/16	15	17	5	12 1/2	3/16	8	.20	.29	.42
662C	1/8	12	3/16	17	19	5	12 1/2	3/16	8	.20	.29	.42
663A	1/8	14	3/16	19	21	6 1/4	15 1/2	3/16	10	.27	.39	.56
663B	1/8	16	3/16	21	23	6 1/4	15 1/2	3/16	10	.27	.39	.56
663C	1/8	18	3/16	23	25	6 1/4	15 1/2	3/16	10	.27	.39	.56
664A	1/8	20	3/16	25	27	7 1/2	17 1/2	3/16	11	.37	.53	.75
664B	1/8	22	3/16	27	29	7 1/2	17 1/2	3/16	11	.37	.53	.75
664C	1/8	24	3/16	29	31	7 1/2	17 1/2	3/16	11	.37	.53	.75
665A	1/8	26	3/16	31	33	8 1/2	19 1/2	3/16	13	.50	.72	1.00
665B	1/8	28	3/16	33	35	8 1/2	19 1/2	3/16	13	.50	.72	1.00
665C	1/8	30	3/16	35	37	8 1/2	19 1/2	3/16	13	.50	.72	1.00
666A	1/8	32	3/16	37	39	9 1/2	21 1/2	3/16	14	.74	1.00	1.35
666B	1/8	34	3/16	39	41	9 1/2	21 1/2	3/16	14	.74	1.00	1.35
666C	1/8	36	3/16	41	43	9 1/2	21 1/2	3/16	14	.74	1.00	1.35
667A	3/8	38	1/2	43	45	10 3/4	23 3/4	3/16	16	1.10	1.45	1.90
667B	3/8	40	1/2	45	47	10 3/4	23 3/4	3/16	16	1.10	1.45	1.90
667C	3/8	42	1/2	47	49	10 3/4	23 3/4	3/16	16	1.10	1.45	1.90
668A	3/8	44	1/2	49	51	11 3/4	25 3/4	3/16	19	1.90	2.50	3.20
668B	3/8	46	1/2	51	53	11 3/4	25 3/4	3/16	19	1.90	2.50	3.20
668C	3/8	48	1/2	53	55	11 3/4	25 3/4	3/16	19	1.90	2.50	3.20

TABLE VII d. "S" WRENCHES, 22 1/2° ANGLE, DOUBLE HEAD (FOR HEXAGON HEAD CAP SCREWS)\*

661D	1/8	3	3/16	8	10	4	10 1/2	3/16	7	\$0.15	\$0.22	\$0.32
661E	1/8	5	3/16	10	12	4	10 1/2	3/16	7	.15	.22	.32
661F	1/8	6	3/16	11	13	4	10 1/2	3/16	7	.15	.22	.32
661G	1/8	8	3/16	13	15	5	12 1/2	3/16	8	.20	.29	.42
662D	1/8	10	3/16	15	17	5	12 1/2	3/16	8	.20	.29	.42
662E	1/8	12	3/16	17	19	5	12 1/2	3/16	8	.20	.29	.42
662F	1/8	14	3/16	19	21	6 1/4	15 1/2	3/16	10	.27	.39	.56
662G	1/8	16	3/16	21	23	6 1/4	15 1/2	3/16	10	.27	.39	.56
663D	1/8	18	3/16	23	25	6 1/4	15 1/2	3/16	10	.27	.39	.56
663E	1/8	20	3/16	25	27	7 1/2	17 1/2	3/16	11	.37	.53	.75
663F	1/8	22	3/16	27	29	7 1/2	17 1/2	3/16	11	.37	.53	.75
663G	1/8	24	3/16	29	31	7 1/2	17 1/2	3/16	11	.37	.53	.75
664D	1/8	26	3/16	31	33	8 1/2	19 1/2	3/16	13	.50	.72	1.00
664E	1/8	28	3/16	33	35	8 1/2	19 1/2	3/16	13	.50	.72	1.00
664F	1/8	30	3/16	35	37	8 1/2	19 1/2	3/16	13	.50	.72	1.00
664G	1/8	32	3/16	37	39	9 1/2	21 1/2	3/16	14	.74	1.00	1.35
664H	1/8	34	3/16	39	41	9 1/2	21 1/2	3/16	14	.74	1.00	1.35
664I	1/8	36	3/16	41	43	9 1/2	21 1/2	3/16	14	.74	1.00	1.35

\*For U. S. standard nuts; size of bolts

\*Other sizes same as Nos. 732 to 739B, with same milled openings; shorter lengths and slightly thicker heads.

Code word, add: LOGUL.

TABLE VIII. DROP-FORGED "S" WRENCHES, DOUBLE HEAD, FOR SET SCREWS AND SQUARE-HEAD CAP SCREWS

(a) No.	(b) For Set Screws; Sizes		(c) For Square Head Cap Screws; Size Screws		(d) Openings Milled		(e) Extreme Length		(f) Thick- ness Heads		(g) List Prices			
	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	Un- finished	Semi- finished	Fin- ished	
661H	1-3/8	6-8	—	—	1-1/4	6-8	4	102	7/8	7	\$0.15	\$0.22	\$0.32	
661J	1-1/4	6-10	—	—	1-3/8	6-10	4	102	7/8	7	.15	.22	.32	
661K	1-3/8	8-10	—	—	5/8	8-10	4	102	7/8	7	.15	.22	.32	
661L	5/8	7-8-11	—	—	5/8	7-8-11	4	102	7/8	7	.15	.22	.32	
662H	3-3/8	10-11	1-1/4	6-8	3-1/4	10-11	5	127	5/8	8	.20	.29	.42	
662J	3-1/2	10-13	1-3/8	6-10	3-1/4	10-13	5	127	5/8	8	.20	.29	.42	
662K	3-1/2	11-13	5/8	3-8	7-1/2	11-13	5	127	5/8	8	.20	.29	.42	
662L	3-1/2	11-14	5/8	7-8-11	7-1/2	11-14	5	127	5/8	8	.20	.29	.42	
663H	1-2	9-13-14	3-8	10-11	1-1/2	13-14	6 1/4	159	5/8	10	.27	.39	.56	
663J	1-2	13-16	3-8	1-2	10-13	1-3/8	13-16	6 1/4	159	5/8	10	.27	.39	.56
663K	9/8	14-16	1-2	11-13	9/8	14-16	6 1/4	159	5/8	10	.27	.39	.56	
663M	—	—	3-8	9/8	11-14	5/8	14-17	6 1/4	159	3/4	10	.27	.39	.56
664H	9/8	14-19	—	—	9/8	14-19	7 1/2	191	7/8	11	.37	.53	.75	
664M	—	—	1-2	9/8	13-14	5/8	16-17	7 1/2	191	7/8	11	.37	.53	.75
664J	5/8	3-4	16-19	1-2	5/8	3-4	16-19	7 1/2	191	7/8	11	.37	.53	.75
664K	5/8	7-8	16-22	—	5/8	7-8	16-22	7 1/2	191	7/8	11	.37	.53	.75
664P	—	—	9/8	5/8	14-16	1-1/4	17-19	7 1/2	191	7/8	11	.37	.53	.75
664R	—	—	9/8	3/4	14-19	1-1/4	17-22	7 1/2	191	7/8	11	.37	.53	.75
665H	3-1/2	7-8	19-22	5/8	3-4	16-19	3-7/8	19-22	9	12	13	.50	.72	1.00
665J	3-1	19-25	—	—	3-1	19-25	9	229	1-1/2	13	.50	.72	1.00	
665K	7-8	1-22-25	—	—	7-1	22-25	9	229	1-1/2	13	.50	.72	1.00	
666M	—	—	5/8	7-8	16-22	3-11/16	19-29	10 1/2	267	9/8	14	.74	1.00	1.35
666H	7-8	11-8	22-29	3-4	7-8	19-22	3-11/16	22-29	10 1/2	267	14	.74	1.00	1.35
666R	—	—	3-4	1-19-25	—	—	3-11/16	22-32	10 1/2	267	14	.74	1.00	1.35
666J	1-11/16	25-29	—	—	1-11/16	25-29	10 1/2	267	9/8	14	.74	1.00	1.35	
666K	1-11/16	25-32	—	—	1-11/16	25-32	10 1/2	267	9/8	14	.74	1.00	1.35	
667H	11-8	29-32	7-8	1-22-25	11-8	29-32	12	305	5/8	16	1.10	1.45	1.90	
667M	—	—	7-8	11-8	22-29	11-8	13-25	12	305	5/8	16	1.10	1.45	1.90
667R	—	—	1-11/16	25-29	11-8	13-25	32	305	5/8	16	1.10	1.45	1.90	
668M	—	—	1-11/16	25-32	11-11/16	11-12	32-38	14	356	3/4	19	1.90	2.50	3.20
668R	—	—	11-8	11-14	29-32	11-11/16	35-38	14	356	3/4	19	1.90	2.50	3.20



**Drop-Forged Wrench Sets**

**No. 1. Carriage Makers' Set**—Wrenches have openings for manufacturers' standard nuts. Consists of wrenches Nos. 675, 677, 679, 681 and 683. Code word: LUBAJ.

**No. 2. Automobile Set**—Wrenches have openings for A. L. A. M. standard nuts and cap screws. Consists of wrenches Nos. 675A, 679A, 681A, 683A and 685B. Code word: LUBEK.

**No. 3. Carriage Makers' Set**—Wrenches have openings for manufacturers' standard nuts. Consists of wrenches Nos. 675, 679 and 683. Code word: LUBIL.

**No. 4. General Service Set**—Wrenches have openings milled for 12 nut and screw sizes. Consists of wrenches Nos. 675B, 677B, 679B, 681B, 683B and 685B. Code word: LUBUG.



Fig. 16. Set No. 1    Fig. 17. Set No. 4    Fig. 18. Set No. 8

**No. 5. Utility Set**—Wrenches have openings milled for "nut measure" instead of bolt size. Consists of wrenches Nos. 675A, 677, 679C, 681A and 683B. Code word: LUCAP.

**No. 6. Utility Set**—Wrenches have openings milled for the most used sizes. Consists of Nos. 675A, 679C and 683B. Code word: LUCKS.

**No. 7. "Thin Six" Set**—Wrenches have openings for U. S. standard nuts and cap screws. Consists of wrenches Nos. 623D, 626X, 628, 629D, 634 and 635E. Code word: LUCER.



Fig. 19. Kit No. 200

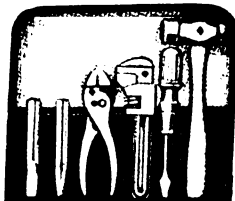


Fig. 20. Kit No. 201

**No. 8. "Thin Seven" Automobile Set**—This set consists of the six wrenches in the No. 7 set and spark plug wrench, No. 993SP. Code word: LUCOM.

**No. 9. "Thin Five" Automobile Set**—Wrenches have openings milled for A. L. A. M. standard nuts and cap screws. Consists of wrenches Nos. 623E, 626X, 629E, 632X and 635G. Code word: LUCUN.

**No. 10. "Bix Six" Extra Capacity Set**—For severe service about automobiles. Wrenches have openings milled for U. S.

standard nuts and cap screws. Consists of wrenches Nos. 725, 27C, 28, 729, 34 and 736. Code word: LUDIS.

**No. 11. "Big Seven" Extra Capacity Set**—For severe service about automobiles. This set consists of the six wrenches in the No. 10 set and the spark plug wrench, No. 993SP. Code word: LUDOT.

**No. 12. Automobile Set**—Wrenches have openings milled for A. L. A. M. standard nuts and cap screws. Consists of wrenches Nos. 723A, 27C, 731A, 33C and 737. Code word: LUDUV.

**No. 13. Textile Machinery Set**—Wrenches have openings for every bolt size from  $\frac{1}{8}$  to  $\frac{3}{8}$  in. (5 to 22 mm.). Consists of wrenches Nos. 760B, 761C, 763A, 764B and 765C. Code word: LUFAP.

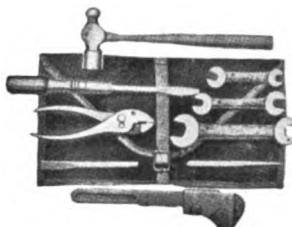


Fig. 21. Kit No. 202



Fig. 22. Kit No. 204

**No. 14. Crompton and Knowles Loom Set**—Wrenches have openings for the special nuts and screws on these looms. Consists of wrenches Nos. 527S, 530S, 534S, 30S, 33S and 37S. Code word: LUFEX.

**Tool Kits**

**No. 200. Automobile Tool Kit**—This tool kit consists of 16-oz. ( $\frac{1}{2}$  kg.) all steel hammer and tire lifter attachment, 9-in. (229 mm.) adjustable automobile wrench, 5-in. (127 mm.) screw driver, 6-in. (152 mm.) combination plier, Nos. 23, 25, 27 and 31 double-end wrenches,  $\frac{3}{8}$ - x 5-in. (10 x 127 mm.) octagon punch,  $\frac{3}{8}$ - x 5-in. (10 x 127 mm.) octagon chisel, and 10-in. (254 mm.) pocket canvas tool case. Code word: LUFIZ.

**No. 201. Motorcycle Tool Kit**—This tool kit consists of 8-oz. ( $\frac{1}{4}$  kg.) machinists' ball-peen hammer, 7-in. (178 mm.) motorcycle adjustable wrench, 3-in. (76 mm.) blade round shank screw driver, 6-in. (152 mm.) combination plier,  $\frac{3}{8}$ - x 5-in. (10 x 127 mm.) octagon punch,  $\frac{3}{8}$ - x 5-in. (10 x 127 mm.) octagon chisel, and envelope tool case. Code word: LUGAB.

**No. 202. Small Roadster Tool Kit**—This tool kit consists of 8-oz. ( $\frac{1}{4}$  kg.) machinists' ball-peen hammer, 9-in. (229 mm.) adjustable auto wrench, 6-in. (152 mm.) combination pliers, 5-in. (127 mm.) blade electricians' square shank screw driver,  $\frac{3}{8}$ - x 5-in. (10 x 127 mm.) octagon punch,  $\frac{3}{8}$ - x 5-in. (10 x 127 mm.) octagon chisel, Nos. 23, 25, and 29 unfinished double-end wrenches and envelope tool case. Code word: LUGEC.

**No. 204. 18-Piece Tool Kit**—This tool kit consists of Nos. 23, 27, 31 and 34 semi-finished 15-degree drop-forged wrenches, 10-in. (254 mm.) Stillson pipe wrench, 11-in. (279 mm.) ebony automobile monkey wrench with tire-iron handle, 3-in. (76 mm.) round shank screw driver, 6-in. (152 mm.) square shank screw driver, 6-in. (152 mm.) offset screw driver, 9-in. (229 mm.) machinists' all-steel screw driver, 7-in. (178 mm.) flat file, 7-in. (178 mm.) round file, file handle, 8-in. (203 mm.) ebony adjustable combination plier,  $\frac{1}{2}$ -in. (13 mm.) solid punch— $\frac{1}{2}$  polished,  $\frac{1}{4}$ -in. (3 mm.) point,  $\frac{1}{2}$ -in. (13 mm.) cold chisel,  $\frac{3}{8}$ -in. (10 mm.) cotter pin extractor, 1-lb. ( $\frac{1}{2}$  kg.) machinists' ball-peen hammer, No. 103 small adjustable wrench, and waterproof canvas roll, with pocket for each tool. Code word: LUGOF.

## FABRICANTES DE HERRAMIENTAS PARA MECANICOS

Llaves de Apretar, Alicates, Destornilladores, Martillos y Herramientales.

### Talleres y Facilidades de Fabricacion

Los talleres de esta Compañia son modernos y completos. La maquinaria de que dispone y los métodos perfeccionados empleados en la manufactura, constituyen factores decisivos en el costo económico de producción y buena calidad del producto.

Los departamentos de desbastar, doblar, soldar a martillo, preparar (pickling), pulir por fricción, fresar, amolar, pulir, endurecer y niquelar están montados a la moderna y a cargo de especialistas en el ramo.

Los departamentos de matrices y el taller mecánico están montados con maquinaria especial y moderna y a cargo de operarios competentes. El departamento de recocer contiene hornos para el recocido exterior, templar, para la preparación de aleaciones y para fabricar acero rápido.

### Forjaduras a Martillo

Esta Compañia también se encarga de hacer, a solicitud, forjaduras a martillo, matrices para trabajos especiales y cualquier reparación o renovación de piezas.

**Instrucciones para Hacer los Pedidos**—Exprésese el nombre, número y acabado del producto que se desea. (Nótese que en la fig. 6 se muestran tres distintos acabados.)

**Garantía**—Cualquiera herramienta defectuosa marca "Herbrand" será sustituida por otra sin costo alguno para el cliente.

**Cotizaciones**—Cotizaremos precios de forjados especiales después de recibir el modelo, dibujo o copia al ferro-prusiato, estipulaciones y cantidad deseada.

#### Tabla I. Llaves Forjadas a Martillo para Bicicletas. Fig. 1.

(a) Número. (b) Largo. (c) Bocas. (d) Abertura. (e) Peso. (f) Palabra clave. Negras, jaspadas, niqueladas.

#### Tabla II. Llaves Forjadas a Martillo para Automoviles, Motocicletas y Mecanicos. Fig. 2.

(a) Número. (b) Largo. (c) Bocas. (d) Abertura. (e) Peso. (f) Palabra clave. Negra, jaspada, con palanca o mango recto.

#### Tabla III. Alicates Forjados a Martillo. Fig. 3.

(a) Número. (b) Largo. (c) Capacidad. (d) Peso. (e) Palabra clave. Negra, niquelada. †Con cabo moleteado. ‡Mango sin moletear de 6 pulg. (152 mm.) acabado en negro.

La fig. 6 del texto inglés muestra llaves de maquinista con tres clases de acabado: En bruto (a): los forjados se cepillan y acaban en negro. Medio acabados (b): los forjados se cepillan, endurecen, y acaban en negro con las bocas esmeriladas o sin esmerilar. Acabado (c): los forjados se cepillan, pulimentan y endurecen, las bocas pueden ser negras, pulimentadas o jaspadas.

#### Tabla IV. Llaves Forjadas a Martillo para Maquinistas.

(a) Número. (b) Para tuercas de calibre americano; diámetro del perno. (c) Abertura cepilladas. (d) Largo total. (e) Espesor de las bocas. (f) Lista de precios. En bruto, medio acabada, acabada.

#### Tabla IV. A. Angulo de 15° (Una Sola Boca).

#### Tabla IV. B. Angulo de 15° (Dos Bocas).

Tabla V. Llaves Forjadas a Martillo, Planas o para Tuercas de Seguridad. Fig. 7 y 8. (Para la interpretación de esta tabla véase la anterior.)

Tabla VI. Llaves Forjadas a Martillo para Usos Generales y Constructores de Vagones. Fig. 9 y 10. (Para la interpretación de esta tabla véase la Tabla IV.)

Tabla VII. Llaves Forjadas a Martillo para Tornillos Prisioneros y Llaves "S". Fig. 11 y 12.

Tabla VIII. Llaves "S" de dos Bocas Forjadas a Martillo para Tuercas de Seguridad y Tornillos de Fijacion y de Cabeza Cuadrada. (Véase la Tabla V para la interpretación de estas tablas.)

Tabla IX. Llaves Forjadas a Martillo para Maquinas de Tejer y Construcciones en General. Figs. 13, 14 y 15. (Para la interpretación de estas tablas véase la Tabla V.)

A continuación se da una lista de los herramientas que la compañía prepara para diferentes usos especiales.

- No. 1—Juego de 5 llaves para carroceros. Fig. 16.
  - No. 2—Juego de 5 llaves para automóvil.
  - No. 3—Juego de 3 llaves para carroceros.
  - No. 4—Juego de 6 llaves para servicios generales. Fig. 17.
  - No. 5—Juego de 5 llaves para el hogar.
  - No. 6—Juego de 3 llaves para el hogar.
  - No. 7—Juego de 6 piezas delgadas.
  - No. 8—Juego de 7 piezas delgadas para automóvil. Fig. 18.
  - No. 9—Juego de 5 piezas delgadas para automóvil.
  - No. 10—Juego de 6 piezas extra fuertes para automóvil.
  - No. 11—Juego de 7 piezas extra fuertes para automóvil.
  - No. 12—Juego de 5 llaves para automóvil.
  - No. 13—Juego de 5 llaves para máquinas de tejer.
  - No. 14—Juego de 6 llaves para telar Crompton y Knowles.
- Para el tamaño de las herramientas véase el texto inglés.
- No. 200—Herramental Completo para Automóvil. Fig. 19.
- Este herramental contiene llaves, martillo, llave ajustable, destornillador, alicates combinación, cincel octagonal y estuche de lona para el bolsillo.

No. 201—Herramental para Motocicleta. Fig. 20.

Contiene un martillo de bola, llave ajustable, destornillador y cincel octagonal, alicates combinación y punzón octagonal.

No. 202—Herramental para Torpedo (Roadster) Pequeño. Fig. 21.

Este herramental contiene un martillo de bola, una llave ajustable, un alicate combinación, destornillador y cincel y punzón octagonal.

No. 204—Herramental de 18 Piezas. Fig. 22.

Este estuche contiene 4 llaves de 15°, una llave Stillson, una inglesa, un destornillador con espiga redonda y otro con espiga cuadra, un destornillador descentrado, una lima plana de 7 pulg., una lima redonda, alicate de combinación, un punzón, cincel, extractor de pasadores, martillo de bola, llave pequeña ajustable. El herramental tiene un bolsillo para cada herramienta.

## FABRICANTES DE FERRAMENTAS MECHANICAS

Chaves Inglesas, de Bocca e de Parafusos. Alicates, Martellos e Jogos Completos de Ferramentas.

### Facilidades Fabris

A Fabrica Herbrand é o que existe de mais moderno e perfeito. Com todos os seus machinismos modernos e adoptando novos methodos de trabalho está habilitada a offercer os seus productos a preços modicos e de primeira qualidade.

As suas secções de aparar, envergar, soldar, limpar, fresar, rectificar, brunir, temperar, galvanizar, etc. são suppridas de todas as facilidades possiveis. Os seus fornos para tempera de metaes são modernos e produzem o mais fino grau de tempera desejada.

### Peças Especiales Forjadas a Martinete

A Herbrand Company também se encarrega de fazer peças forjadas a martinete. Fabrica matrizes para trabalhos especiais e sempre dispõe de muitas dellas em stock. Qualquer reparo ou renovações serão feitos por conta da Companhia.

### Expediente

**Pedidos**—Façam a fineza de dar o nome, numero e acabamento do artigo porque assim evitar-se-ão confusões (vide os tres acabamentos illustrados na Fig. 6, no texto inglez).

**Garantias**—Qualquer ferramenta que tiver a marca "Herbrand" encontrada defeituosa, quer devido ao material, quer á mão de obra, será immediatamente substituida por outra sem despeza alguma por conta do freguez.

**Photographias**—As photographias illustrando os nossos artigos serão enviadas aos nossos freguezes para uso de seus catalogos, si nol-as pedirem.

**Cotações**—Faremos cotações sobre as peças especiaes logo que recebermos o molde, desenho ou debucho sobre papel ferro-prussiatico, juntamente com as especificações e a quantidade desejada.

**Tabella I. Chaves Forjadas para Bicicletas Fig. 1.** (a) No. (b) Comprimento. (c) Dentes. (d) Abertura. (e) Peso. (f) Palavra do codigo para as chaves pretas, matizadas ou nikeladas.

**Tabella II. Chaves Forjadas para Machinas, Automoveis e Bicycletas. Fig. 2**—(a) No. (b) Comprimento. (c) Dentes. (d) Abertura. (e) Peso. (f) Palavras do codigo para as chaves pretas ou matizadas.

**Fig 6 Chaves para Mechanicos.** Illustração dos tres diferentes acabamentos das chaves. (a) Sem ser acabada á machina. (b) Meio acabada, endurecida, preta e com as cabeças esmerilhadas. (c) Acabada toda polida, endurecida, o cabo matizado e com a cabeça esmerilhada ou não.

**Tabella III. Alicates Combinação para Cortar Fios e Agarrar Tubos de Gaz. Fig. 3**—(a) No. (b) Comprimento. (c) Capacidade. (d) Peso. (e) Palavras do codigo para os alicates pretos e nikelados.

#### Fig. 4. Chave de Parafuso com a haste quadrada.

**Tabella IV. Chaves Forjadas para Mechanicos Fig. 6**—(a) No. (b) Para as porcas "Standard" americanas; tamanhos das cavilhas. (c) Bocca, acabada. (d) Maximo comprimento. (e) Espessura das cabeças. (f) Lista dos preços; não acabadas, meio acabadas e acabadas.

A Tabella IV a é para as mesmas chaves porem de uma só cabeça e angulo de 15 graus. A Tabella IVb idem, de duas cabeças.

#### Tabella V. Para as chaves para contra-porcas, illustradas no Fig. 7—

(a) No. (b) Para as porcas "Standard" americanas; tamanhos das cavilhas. (c) Bocca, acabada. (d) Maximo comprimento. (e) Espessura da cabeça. (f) Lista dos preços para as chaves não acabadas, meio acabadas e acabadas.

**Tabella Vb. Para as mesmas chaves, porem de duas cabeças e angulo de 15 graus.**

**Tabella VI. Para as chaves illustradas nas Figs. 9 e 10, usadas para serviços geraes e construção de carros. Os mesmos dizeres das tabellas precedentes. A tabella VIa é para as chavas da Fig. 9, porem de duas cabeças em angulo de 22½ graus.**

#### Tabella VII. Para as chaves forjadas, illustradas nas Figs. 11 e 12.

(a) No. (b) Para as cavilhas de cabeças hexagonaes; tamanho das cavilhas (c) Bocca acabada. (d) Maximo comprimento. (e) Espessura das cabeças. (a) Lista dos preços para as chaves não acabadas, meio acabadas e acabadas. Tabella VIIa. Para as chaves (Fig. 11) de uma só cabeça e em angulo de 15 graus. Tabella VIIb para as mesmas chaves, porem de duas cabeças. Tabella VIIc para as chaves "S" (Fig. 12) de duas cabeças e em angulo de 22½ graus. (Porcas Americanas) Tabella VIId, para as chaves "S" de duas cabeças, angulo de 22½ graus e cavilhas de cabeças hexagonaes.

**Tabella VIII. Para as chaves forjadas "S" de duas cabeças para cavilhas de sujeição e de cabeças quadradas.** (a) No. (b) Para cavilhas de sujeição; tamanhos. (c) Para cavilhas de cabeças quadradas; tamanhos das cavilhas. (d) Bocca, acabada. (e) Maximo comprimento. (f) Espessura das cabeças. (g) Lista dos preços para as chaves não acabadas, meio acabadas e acabadas.

**Tabella IX. Para as chaves forjadas, para machinas de tecidos (Fig. 13) e construccões geraes. Figs. 14 e 15.** (a) No. (b) Para as porcas "Standard" americanas; tamanhos das cavilhas. (c) Bocca, acabada. (d) Maximo comprimento. (e) Espessura das cabeças. (f) Lista dos preços para as chaves não acabadas, meio acabadas e acabadas. A tabella IXa é para as chaves de machinas de tecidos de duas cabeças e em angulo de 22½ graus. A tabella IXb, para as de construccões geraes e em angulo de 15 graus e a IXc para as da Fig. 15 de bocas rectas.

As Figs. 16, 17 e 18 illustram diferentes jogos de nossas ferramentas.

As Figs. 19, 20, 21 e 22 illustram também outros jogos porem estes consistem não somente de chaves de diferentes tamanhos, mas de diferentes ferramentas.

## OUTILS DE MECANICIENS

Clés Anglaises, Pincés, Tournevis, Alésoirs et Trousses d'Outils.

## Usine

Notre usine est des plus modernes, elle est équipée pour une production intense dans de bonnes conditions de prix. Les machines-outils ont été sélectionnées avec le plus grand soin et le traitement thermique est l'objet d'une attention toute particulière.

## Produits Estampés

Nous exécutons sur commande toutes espèces de pièces estampées dont les matrices sont conservées aux archives, réparées ou renouvelées gratuitement.

## Service

Pour éviter les erreurs, il faut avoir bien soin de spécifier le nom, le numéro et le fini des articles.

Les trois différents finis sont représentés fig. 6: (a) brut—les pièces sont simplement fraisées aux dimensions voulues et noircies, (b) semi-fini—comme les précédentes, mais trempées et les têtes meulées et polies, (c) fini—comme les précédentes, mais polies entièrement, noircies ou vernies noir.

Nous remplaçons gratuitement tout outil marqué "Herbrand" reconnu défectueux. Nous cotons toutes pièces forgées spéciales, au reçu du modèle, dessin ou bleu accompagné des spécifications et indication du nombre de pièces désirées.

## Série de Clés en Acier Forgé

**Série No. 1. Pour Carrossiers (Fig. 16).**—Les ouvertures des clés correspondent aux dimensions des écrous types de carrosserie. Elle comprend les Nos. 675, 677, 679, 681 et 683. Mot de Code: LUBAJ.

**Série No. 2. Pour Automobiles.**—Les ouvertures correspondent aux dimensions des écrous et des vis à métaux, types A. L. A. M. Elle comprend les Nos. 675A, 679A, 681A, 683A, et 685B. Mot de Code: LUBEK.

**Série No. 3. Pour Carrossiers.**—Similaire à la série No. 1, mais ne comprend que les Nos. 675, 679 et 683. Mot de Code: LUBIL.

**Série No. 4. Pour Emplois Généraux (Fig. 17).**—Les ouvertures sont fraisées pour 12 dimensions d'écrous ou de vis. Elle comprend les Nos. 675B, 677B, 681B, 683B, et 685B. Mot de Code: LUBUG.

**Série No. 5. Pour Emplois Courants.**—Les ouvertures sont aux dimensions des écrous et non des boulons. Elle comprend les Nos. 675A, 677, 679C, 681A et 683B. Mot de Code: LUCAP.

**Série No. 6. Pour Emplois Courants.**—Comme la précédente, mais pour dimensions plus courantes. Elle comprend les Nos. 675A, 679C et 683B. Mot de Code: LUCKS.

**Série No. 7. Jeu de Six Clés Plates.**—Les ouvertures correspondent aux dimensions des écrous et vis à métaux type U. S. Elle comprend les Nos. 623D, 626X, 628, 629D, 634 et 635E. Mot de Code: LUCER.

**Série No. 8. Jeu de Sept Clés Plates (Fig. 18).**—Elle comprend les 6 clés de la série No. 7 plus une clé de bougie No. 993SP. Mot de Code: LUCOM.

**Série No. 9. Jeu de Cinq Clés pour Automobiles.**—Les ouvertures correspondent aux dimensions des écrous et vis à métaux, jauge A. L. A. M. Elle comprend les Nos. 623E, 626X, 629E, 632X et 635G. Mot de Code: LUCUN.

**Série No. 10. Jeu de Six Grandes Clés.**—Pour gros travaux d'automobiles. Les clés ont des ouvertures correspondant aux dimensions types des écrous et des vis à métaux. Elle comprend les Nos. 725, 27C, 28, 729, 34 et 736. Mot de Code: LUDIS.

**Série No. 11. Jeu de Sept Grandes Clés.**—Identique à la précédente, mais comprend de plus une clé pour bougies, N° 993 SP. Mot de Code: LUDOT.

**Série No. 12. Jeu de Clés pour Automobiles.**—Les ouvertures correspondent aux dimensions des écrous et vis à métaux, jauge A. L. A. M. Elle comprend les clés Nos. 723A, 27C, 731A, 33C et 737. Mot de Code: LUDUV.

**Série No. 13. Pour Machines Textiles.**—Les clés ont des ouvertures pour tous les boulons de 5 à 22 mm. Elle comprend les clés Nos. 760B, 761C, 763A, 764B et 765C. Mot de Code: LUFAW.

**Série No. 14. Pour Métiers à Tisser Crompton & Knowles.**—Les ouvertures correspondent aux dimensions des écrous et vis de ces métiers. Elle comprend les clés Nos. 527S, 530S, 534S, 30S, 33S et 37S. Mot de Code: LUFEX.

## Trousses d'Outils

**No. 200. (Fig. 19). Trousse d'Outils pour Automobiles.**—Cette trousse comprend: un marteau de ½ kg. avec manche démonte-pneus, une clé à molette pour autos de 229 mm., un tournevis de 127 mm., une pince universelle de 152 mm., des clés doubles Nos. 23, 25, 27 et 31, une broche octogonale de 10 x 127 mm., un burin octogonal de 10 x 127 mm. et une trousse en toile de 254 mm. Mot de Code: LUFIZ.

**No. 201. (Fig. 20) Trousse pour Motocyclettes.**—Cette trousse comprend: un marteau à panne sphérique de ¼ kg., une clé à molette pour motocyclettes de 178 mm., un tournevis à lame ronde de 76 mm., une pince universelle de 152 mm., un chasse clou octogonal de 10 x 127 mm., un burin octogonal de 10 x 127 mm., et la trousse. Mot de Code: LUGAB.

**No. 202. (Fig. 213) Trousse pour Voitures.**—Cette trousse comprend: un marteau à panne sphérique de ¼ kg., une clé à molette de 229 mm., une pince universelle de 152 mm., un tournevis d'électricien à lame carrée de 127 mm., un chasse clou de 10 x 127 mm., un burin octogonal de 10 x 127 mm., des clés doubles, brutes, Nos. 23, 25 et 29 et la trousse. Mot de Code: LUGEC.

**No. 204. (Fig. 22) Trousse de 18 Outils.**—Cette trousse comprend: des clés anglaises en acier forgé à 15 degrés, semi-finies, Nos. 23, 27, 31 et 34, un serre tube "Stillson" de 254 mm., une clé à molette automobile, finie noir à manche démonte-pneus de 279 mm., un tournevis à lame ronde de 76 mm., un tournevis à lame carrée de 152 mm., un tournevis coudé de 152 mm., un tournevis tout acier, de mécanicien, de 229 mm., une lime plate de 178 mm., une lime ronde de 178 mm., un manche de lime, une pince universelle, finie noir de 203 mm., une broche semi-polie de 13 mm., un pointeau de 3 mm., un burin de 13 mm., un chasse goupille de 10 mm., un marteau à panne sphérique de mécanicien de ½ kg., une petite clé à molette No. 103, une trousse toile imperméable avec pochette pour chaque outil. Mot de Code: LUGOF.

## ИНСТРУМЕНТЫ ДЛЯ МЕХАНИКОВЪ.

Гаечные ключи, клещи, отвертки, молотки и инструментальные наборы.

## Постановка дѣла.

Заводъ нашей Компаніи полностью оборудованъ новейшими машинами. Новые молота и коловочныя машины, вмѣстѣ съ новейшими методами производства и полнымъ оборудованіемъ для термической обработки, даютъ возможность Компаніи изготовлять изделия отъ самыхъ малыхъ размѣровъ вплоть до всѣхъ 90 кг.

## Служба.

**Заназъ.**—При заказахъ нужно сообщать наименованіе изделия, ихъ число и желаемую отдѣлку (три различныхъ отдѣлки показаны на фиг. 6).

**Гарантия.**—Каждый инструментъ со штампомъ HERBRAND въ случаѣ обнаруженія въ немъ дефектовъ въ матеріалѣ или отдѣлкѣ будетъ замѣненъ новымъ.

**Расцѣнка.**—Расцѣнка на спеціальныя поковки будетъ выслана по полученіи модели или чертежа со спецификаціями и указаніемъ желаемого количества.

**Фиг. 1. Велосипедный ключъ № 107.**

**Фиг. 2. Автомобильный ключъ.**

Таблицы I и II даютъ для нихъ соответственно: №, длину, челюсти, открытіе, всѣ и слова кода для черной, пятнистой и никелевой отдѣлки.

**Фиг. 3. Клещи.** Таблица III даетъ для нихъ соответственно: №, длину, захватывающую способностью, всѣ и слова кода для черной и никелевой отдѣлки.

**Фиг. 4. Цѣльная стальная отвертка съ квадратнымъ стержнемъ.**

**Фиг. 5. Цѣльный стальной молотокъ съ черной отдѣлкой.**

**Фиг. 6. Ключи для механиковъ** показывающіе три рода внешней отдѣлки: 1) неоконченная: поковки очищаются на круглахъ и отдѣляются въ черномъ видѣ, 2) полуоконченная: поковки очищаются, закаляются и отдѣляются въ черномъ видѣ со свѣтлой шлифовкой головокъ, 3) оконченная: поковки очищаются, цѣлкомъ полируются и закаляются: пятнистая или черная отдѣлка.

Таблица IV даетъ для этихъ ключей, а) ординарныхъ, в) двойныхъ, соответственно: №, діаметръ болтовъ для гаекъ американскаго стандарта; открытіе; полная длина; толщина головки; цѣны для ключей съ неоконченной, полуоконченной и оконченной отдѣлками.

**Фиг. 7. Ключъ для контръ-гаекъ (тонкій).**

**Фиг. 8. Ключъ для установочныхъ болтовъ.**

**Фиг. 9. Ключъ для общей службы.**

**Фиг. 10. Ключъ для автомобильныхъ заводчиковъ.**

Таблица V даетъ размѣры для тонкихъ ключей, VIa для общей службы, VIb для автомобильныхъ заводчиковъ. Обозначенія тѣ же, что и въ таблицѣ IV-ой.

**Фиг. 11. Ключъ для шпильки.**

**Фиг. 12. S-образный ключъ.**

Таблица VII даетъ размѣры для этихъ ключей. Обозначенія тѣ же, что и въ таблицѣ IV-ой.

Таблица VIII для S-образныхъ двойныхъ ключей, для установочныхъ болтовъ и болтовъ съ квадратной головкой.

**Фиг. 13. Ключъ для текстильныхъ машинъ.**

**Фиг. 14 и 15. Ключи для строительныхъ работъ.**

Таблица IX даетъ для этихъ ключей размѣры. Обозначенія тѣ же, что и въ таблицѣ IV-ой.

На фиг. 16, 17 и 18, соответственно, представлены наборы ключей 1, 4 и 8.

**№ 200. Автомобильный инструментальный наборъ (фиг. 19).** Этотъ наборъ состоитъ изъ цѣльнаго стального молотка въ ½ кг., 9 дм., приспособяемаго, автомобильнаго ключа, 5 дм. отвертки, 6 дм. раздвижныхъ клещей, №№ 23, 25, 27 и 30 двойныхъ ключей, ¾ x 5 дм. пробойника, ¾ x 5 дм. зубила и чехла.

**№ 201. Наборъ для мотоцикловъ (фиг. 20).**—Этотъ наборъ состоитъ изъ молотка въ ¼ кг., 7 дм. приспособяемаго ключа, 3 дм. отвертки, 6 дм. раздвижныхъ клещей, ¾ x 5 дм. пробойника, ¾ x 5 дм. зубила и чехла.

**№ 202. Небольшой дорожный наборъ (фиг. 21).**—Этотъ наборъ состоитъ изъ 8 дм. молотка, 9 дм. приспособяемаго ключа, 6 дм. раздвижныхъ клещей, 5 дм. отвертки, ¾ x 5 дм. пробойника, ¾ x 5 дм. зубила, №№ 23, 25 и 29 неотдѣланныхъ двойныхъ ключей и чехла.

**№ 204. Инструментальный наборъ изъ 18 частей (фиг. 22).** Этотъ наборъ состоитъ изъ №№ 23, 27, 31 и 34 полукруглыхъ ключей, 10 дм. трубнаго ключа Стильсонъ, 11 дм. французскаго ключа, 3 дм. отвертки, 6 дм. простой и боковой отвертокъ, 9 дм. отвертки, 7 дм. плоскаго напильника, 7 дм. круглаго напильника, 8 дм. раздвижныхъ клещей, ½ дм. пробойника, ½ дм. зубила, ¾ дм. вытягивателя шпильковъ, молотка въ ½ кг., № 103 небольшого раздвижнаго ключа и водонепроницаемаго холстянаго чехла.